8.19 KICKBLOCKS:

The following standard shall apply to kick blocks as shown on Sheet 19 and 66 of the Standard Drawings:

A. Installation: Kick blocks shall be constructed at all bends and fittings which require support due to unbalanced line thrust, and which are not rodded. Care shall be taken not to block outlets or to cover bolts, nuts, clamps or other fittings or to make them inaccessible. A bond breaker shall be placed between the pipe and the kick block to aid in ease of future removal. For the same reason, if a large kick block is to be poured, it shall be separated into sections by a suitable material. Sheet 19 of the Standard Drawings show sizes and shape of kick blocks. Bearing surface areas are minimum areas to bear against the undisturbed trench wall. If, in the opinion of Denver Water, the soil bearing capacity is not sufficient to provide adequate restraint based on minimum bearing areas shown on the Standard Drawings, then the minimum bearing area shall be increased to a size that will ensure adequate restraint. In every instance, the kick block shall bear against undisturbed earth. When it is impossible, through over excavation or other cause, to pour a kick block against undisturbed earth, harness rods shall be required to anchor the fittings to the main.

   Before placing concrete, all equipment for mixing and transporting the concrete shall be clean. All debris, water or ice shall be removed from the place to be occupied by the concrete. Concrete shall not be placed on frozen subgrade. Concrete shall be placed only in the presence of the Inspector unless inspection has been waived prior to the placement.

B. Formwork for Kick blocks: All forming for concrete kick blocks and anchors will be done by bulk heading around the shape of the kick block or anchor with wood, burlap, or reinforced paper sacks filled with sand or earth. Sacks shall be of a size easily handled when full, and shall be left in place in the trench. Wood forms shall be removed before backfilling.

   If the main must be placed immediately into service, harness rods may be used in lieu of kick blocks or wood may be used to form up kick blocks. Wood forms shall be of such design as to support the thrust until the concrete has set and shall not be considered a substitute for the concrete kick block.

   No horizontal struts or braces required for trench shoring shall remain in the concrete kick blocks. Prior to placing concrete, the forms and ditch bank shall be inspected and approved by Denver Water.

   When concrete is deposited against ground without the use of forms, the ground shall be thoroughly moistened or other provisions made to prevent the ground from drawing water from the concrete.

C. Minimum Kick block Curing Time: Newly placed concrete shall be allowed to set, undisturbed, for a minimum of 24 hours.

D. Compaction of Fill Over Kick blocks: Backfill may be placed over kick blocks once the surface has set sufficiently to resist the weight of the backfill. However, no tamping or compacting shall be allowed above the kick block for a minimum of 24 hours after placement.